MONTHLY WEATHER REVIEW,

DECEMBER, 1878.

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

INTRODUCTION.

In compiling the present REVIEW the following data, received up to January 14th, have been made use of, viz: the regular tri-daily weather charts, containing the data of simultaneous observations taken at 119 Signal Service stations and 11 Canadian stations, as telegraphed to this office; monthly journals and means, 109 and 143 respectively, from the former, and monthly means from 13 of the latter; reports from 26 special Sunset stations; 237 monthly registers from Voluntary Observers; 34 monthly registers from United States Army Post Surgeons; Marine Records; International Simultaneous Observations; monthly reports from Voluntary Observers and the local Weather Services of the States of Iowa and Missouri; reliable newspaper extracts; special reports.

BAROMETRIC PRESSURE.

Upon chart No. II is exhibited by the isobaric lines the general distribution of the atmospheric pressure, as reduced to sea-level, for the month. Compared with the means for December of previous years, the pressure has generally been below the normal, east of the Mississippi; the greatest deficiency (0.05 to 0.11 in.) occurring over the Lower Lake region, Middle States and New England. West of the Mississippi the pressure has generally been above the normal, the greatest excess (about 0.17 in.) occurring in Oregon.

The Local Barometric Ranges for the month, as reduced to sea-level, have been largest over the Middle States and New England and least from the Rocky Mountains to California. Taken by districts, they vary as follows: New England, 1.25 in. on summit of Mt. Washington and 1.43 at Eastport to 1.70 at Burlington; Middle Atlantic States, 1.65 at Atlantic City and Norfolk to 1.90 at Fort Whipple; South Atlantic States, 0.96 at Jacksonville to 1.44 at Charlotte, N. C.; Lake region, 1.78 at Rochester to 0.97 at Marquette; Ohio valley and Tennessee, 1.53 at Pittsburgh to 0.94 at Memphis; Gulf States, 0.99 at Mobile to 0.76 at Vicksburg and Laredo, Tex., and 0.52 at Key West; the Northwest and eastern slope of Rocky Mountains, 1.00 at St. Louis to 1.40 at Pembina, 1.47 at Dodge City and 1.19 at Fort Sill; Rocky Mountains, 0.47 at Santa Fé to 0.64 at Denver; Western Plateau, 0.64 at Salt Lake City to 0.70 at Winnemucca; California, 0.70 at Red Bluff to 0.81 at Visalia.

Areas of High Barometer.—As usual, for this month, the areas of high pressure have been well marked, and have exhibited a decided influence on the climate of the country. Nine areas merit a brief description. Two (Nos. V and VI) have been remarkable for the persistence shown in remaining on the Pacific coast. Special attention is also called to Nos. II, V, VII, and IX, which, after entering the Gulf States, were accompanied, or rather followed, by storms which probably developed in that vicinity after the cold winds of thehigh area had begun to blow over the warm and moist surface of the Gulf of Mexico.

No. I—is a continuation of high area No. IX, described in the November REVIEW. 1st, 7:35 a. m., it extended over New England and the St. Lawrence valley; that day it moved beyond Nova Scotia, with winds veering to southeast in advance of low area No. I, then entering the Lake region.

No. II.—4th, the pressure rose slowly in Texas, while clear weather, with light northerly winds, prevailed in the Gulf States. 5th, the rise extended over the East Gulf and South Atlantic States, but the barometer fell slowly in the Southwest, where the winds veered to warmer southeast in advance of the development in Texas of a storm-centre, charted as low area No. III. 6th, slowly diminishing, the high area was transferred to the Florida region.